

JPRS 75927

23 June 1980

Worldwide Report

ENVIRONMENTAL QUALITY

No. 257

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

23 June 1980

WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 257

CONTENTS

ASIA

AUSTRALIA

Meeting Told Conservation Laws Contribute to Inflation (THE COURIER-MAIL, 17 Apr 80)	1
Ban on Chemicals To Save Ozone Foreseen (Richard Eckersley; THE SYDNEY MORNING HERALD, 21 Apr 80)	2
Briefs Salinity and Drought	4

PEOPLE'S REPUBLIC OF CHINA

Changzhou's Fishing Industry All but Defunct Due to Wanton Pollution (GUANGMING RIBAO, 6 Jun 80)	5
Prospects for Research in Marine Pollution Outlined (Ceng Chengkui, Zou Jingzhong; HUANJING KEXUE, 30 Oct 79)	7
'RENMIN RIBAO' Commentary Calls for Environmental Protection (XINHUA Domestic Service, 31 May 80)	10

VIETNAM

Professor Interviewed on U.S. 'Agent Orange' Use (VNA, 15 May 80)	12
--	----

NEAR EAST AND NORTH AFRICA

SUDAN

Briefs	
Water Shortage	14

SUB-SAHARAN AFRICA

INTER-AFRICAN AFFAIRS

Nigeria Donates Money for Ethiopian Drought Victims (THE ETHIOPIAN HERALD, 27 May 80)	15
--	----

ETHIOPIA

Another High Level Team Tours Drought Area (THE ETHIOPIAN HERALD, 20, 21 May 80)	17
---	----

Team Tours Area
Drought Donations

Briefs	
Storm Damage	19
Drought Aid Committee Established	19
Tree Planting Campaign	19

MOZAMBIQUE

National Campaign To Control Land Burnoff (NOTICIAS, 7 May 80)	20
---	----

NAMIBIA

Tax Relief Urged for Drought-Stricken Farmers (THE WINDHOEK ADVERTISER, 27 May 80)	22
---	----

Briefs	
Drought Becoming 'Critical'	23

WEST EUROPE

INTERNATIONAL AFFAIRS

Greenland MP Sees Dangers in Canada Tanker Route (GRONLANDSPOSTEN, 27 Mar 80)	24
--	----

DENMARK

Greenland Mining Firm Defends Environmental Efforts (GRONLANDSPOSTEN, 27 Mar 80)	27
Law Inadequate To Halt Pollution of Little Belt (Lisbeth Nebelong; BERLINGSKE TIDENDE, 7 May 80) .	30
New Study: Heavy Metals in Greenland Food Chain (GRONLANDSPOSTEN, 13 Mar 80)	33

FINLAND

Water Authority Studies Saimaa Canal Environmental Impact (HELSINGIN SANOMAT, 26 Mar 80)	35
Gains Greater Than Losses, by Aila Kayhty, Jussi Otalahti Opposition Growing on Saimaa Shores	
Forest Authority Denies Industry Major Environment Factor (HELSINGIN SANOMAT, 26 Mar 80)	43

NORWAY

ADR Rules on Hazardous Materials Transport Adopted (ARBEIDERBLADET, 10 Apr 80)	45
Report Analyses Waste Recycling Business (AFTENPOSTEN, 1 Apr 80)	47

SWEDEN

Officials Turn Away From Pesticides in Bark Beetle Fight (Inger Blomqvist; HUFVUDSTADSBLADET, 12 May 80) ..	48
--	----

MEETING TOLD CONSERVATION LAWS CONTRIBUTE TO INFLATION

Brisbane THE COURIER-MAIL in English 17 Apr 80 p 9

[Text]

SURFERS PARADISE. — Environmental consultant and TV personality, Mr Harry Butler, said yesterday that legislative conservation measures were costing Australia one percent a year in inflation.

Mr Butler said another one percent was lost in gross national product due to "non-productive" efforts — anti-pollution, "greenie" conservation and locking up of resources.

At the Australian coal conference, Mr Butler said that was the price of conservation. But what was the cost?

"Can we afford not to conserve," he asked. "My belief is that to carry out unbalanced conservation we are inviting disaster as those areas of the world who don't care will quickly overtake us."

The logical, reasoned discussion that should arise from organisations such as the Australian Coal Association, was conspicuous by its absence in public forums about all areas of controversy.

Mr Butler said if the association's members

wished to continue operating in Australia under the existing conditions, they must establish industry guidelines which would indicate the industry's determination and responsibility to maintain acceptable standards.

He said: "Far too often in Australia we hear vociferous comment from uninformed and ignorant self-appointed champions of the people — the radical conservationists."

"We hear equally vocal and emotive argument from specific extremist mine developers."

Mr Butler said the association should be a clearing-house of up-to-date, successful techniques of restoration and rehabilitation.

The ACA should ensure its members were kept abreast of new developments regarding coal where they could.

Government developments and use of techniques normally ran about a decade behind private company works.

To minimise the cost of reshaping soil, estimated at 75 to 90 percent of restoration cost for coal operations, companies which had been lax so far should reshape

during operations, rather than wait until the operations were completed.

Mr Butler said an environmental lawyer had estimated that there were more than 66 Acts and pieces of legislation applying to the environment and mining — most applying to coal mining.

BAN ON CHEMICALS TO SAVE OZONE FORESEEN

Sydney THE SYDNEY MORNING HERALD in English 21 Apr 80 p 11

[Report from Richard Eckersley, Science Reporter]

[Text]

Australia appears likely to follow an international trend towards restricting the use of chemicals believed to damage the earth's protective ozone layer.

The chemicals are chlorofluorocarbons, commonly called fluorocarbons. They are widely used in aerosols, refrigeration and air-conditioning and the manufacture of plastic foams.

Their use could pose serious health and environmental problems by depleting the earth's ozone layer and allowing more ultraviolet radiation to reach the earth's surface.

The chemical industry says this effect has not been established and that the use of fluorocarbons, which will be very difficult to replace, should not be restricted until more research is done — a stance shared by the Federal Government.

But some governments are not waiting.

The United States Environ-

ment Protection Agency announced last week that it will propose that production of fluorocarbons in the United States be frozen at the 1979 level.

This was not the first step, nor would it be the last, to control the use of the chemicals, the agency's deputy administrator, Barbara Blum, said.

She urged "rapid parallel actions by other fluorocarbon-producing nations."

Sweden and Norway have banned the use of the chemicals as propellants in aerosol and a Canadian ban will be enforced next month. The United States banned their use in most aerosols in 1978.

The European Economic Community recently endorsed moves for a 30 per cent reduction from 1976 levels of fluorocarbon use in aerosols, to be reached by June next year.

The Federal Government has taken no action yet to restrict use of the chemicals, preferring to wait until more research data on their effects is available.

But, following American moves against their use, the

Australian aerosol industry voluntarily turned to alternative propellants and its use of fluorocarbons has already fallen by more than 30 per cent from a peak in 1976.

The industry maintains that there is still nothing factual to show a reduction in the ozone layer because of fluorocarbons.

A working party set up by the Australian Environment Council and the National Health and Medical Research Council is now reviewing the implications of fluorocarbons' use.

Federal and State ministers who make up the Australian Environment Council, at a meeting in December last year, noted with concern recent findings on the effect of fluorocarbons on ozone.

The US National Academy of Sciences has reported that even if global emissions of fluorocarbons remained at 1977 levels there would still be a 16 per cent reduction in the ozone layer.

This would lead to much more skin cancer and could affect agricultural and fishing

industries. The fluorocarbons could also contribute to a potentially dangerous warming of the atmosphere, the report said.

The Federal Government is also joining in a United Nations program to co-ordinate international studies on the ozone layer and to make recommendations on future actions.

The committee directing the program is understood to tend to the view that co-ordinated action on fluorocarbons should be taken.

Australian governments, both Federal and State, would be likely to co-operate.

Australia uses about 2 per cent of the world's fluorocarbons.

The latest government figures, for 1978, show that 8,500 tonnes of the chemicals were used in aerosols, 2,500 tonnes in refrigeration and air-conditioning, and 2,000 tonnes in the production of plastic foams.

Fluorocarbons are still used as the sole propellant in about 30 per cent of aerosols sold in Australia. They are used with other propellants in another 30 per cent.

AUSTRALIA

BRIEFS

SALINITY AND DROUGHT--Extremely low water-levels in State dams and increasing saltiness are compounding Australia's drought. Engineers fear the Murray is turning into a river of salt, forcing about 540,000 tonnes of it into the South Australian branch of the river every year. In Perth, there are fears that the water shortage and increasing salinity will stunt development. At a conference in Adelaide yesterday, a team of engineers said they fear Victoria's Dartmouth Dam and land development downstream was turning the Murray into a river of salt. NSW is less affected by salinity than Victoria or South Australia. [Excerpts] [Canberra THE AUSTRALIAN in English 16 Apr 80 p 2]

CSO: 5000

CHANGZHOU'S FISHING INDUSTRY ALL BUT DEFUNCT DUE TO WANTON POLLUTION

Beijing GUANGMING RIBAO in Chinese 6 Jun 80 p 2

[Article: "Industrial Waste Water Spells Disaster for River Fish"]

[Text] When we were in Jiangsu Province--"the land of plenty"--to learn about the situation regarding the fishing industry there, we heard the people voice the following: "It's hard to eat fish here in the land of plenty," and "there are no fish to eat here in the land of plenty." How is this possible? Cadres from some of the marine products organs in Jiangsu Province are of the opinion that industrial pollution is a major factor.

In Wujin County, near the city of Changzhou, we heard that of the more than 70,000 mu of water surface throughout the county, some 30,000 had been polluted. The most serious pollution is in the Grand Canal near Changzhou and in the tributaries of the Beitang River. The water contains large quantities of dangerous chemicals such as phenol and when people stand on the banks they can smell the strong odor of kerosene. Fishermen who used to take 2 million jin of fish a year from clean water at these locations now barely manage to "harvest a single grain." Even though a few fish are taken from time to time, they cannot be eaten because the phenol content in their bodies exceeds health standards and the people of Changzhou have no fresh fresh-water fish to eat.

The sources of pollution of these 30,000 mu are: The Changzhou Petroleum Cracking Plant, the Changzhou Chemical Works, the Changzhou Dyestuff Plant, the Changzhou Paper Mill and the Changzhou Dongfang Hong Printing and Dyeing Plant which dump large amounts of industrial waste water. These plants, instead of compensating the fishermen for their losses in the amount of 50,000 yuan, would do better to put this money into waste water control. To-day these industries continue in the same old way to dump in the Grand Canal and the Beitang River tributaries. "This is really like buying a coffin when you have money and buying medicine when you're broke," the people reply.

The wanton disgorging of waste water by these industries not only destroys the fishery resources, it also undermines the alliance of workers and peasants. The fisherman on these two waterways can net no fish and have no means of livelihood. Collectively, they have marched on the factories and

plants to protest and to demand food. These industries are subsequently fined, but this hardly compensated the fishermen for their losses or made their lives any less difficult.

It is hoped that the concerned leadership and the industry of Changzhou, in the interest of solidifying the alliance of workers and peasants and meeting the needs of the people for fish and in the interest of the well-being of future generations, will resolve the problem of pollution from industrial waste water as quickly as possible and not turn a blind eye and deaf ear to the problem.

CSO: 5000

PROSPECTS FOR RESEARCH IN MARINE POLLUTION OUTLINED

Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese No 5, 30 Oct 79
pp 1-10

[Article by Ceng Chengkui [2582 0701 1145] and Zou Jingzhong [6760 2527 1813], Institute of Oceanography, Chinese Academy of Sciences: "The Present State and Future Prospects for Research on Marine Pollution and Its Prevention"]*

[Excerpt] 2. The Course and Outlook for Research in Marine Environmental Science in Our Country

We believe that research in marine environmental science in our country should start with realities as they exist in our country, be rooted in the present while planning for the long term, and center on the four modernizations, particularly new environmental problems that may appear in the development of industry and agriculture, and in the development of marine resources. We should grasp the crux of these matters, concentrate forces, and proceed to solve them. At the same time it is necessary to give serious attention to basic matters and to improvements with a regard for the long-term, for trends, and for the overall in basic theoretical research in marine environmental science and the accumulation of basic data with research course that makes use of both investigation and laboratory experiments, microscopic and macroscopic observation, and a combination of verification and innovation. Proceeding from on the ground investigation to gain first-hand data, one can then go on to simulate experiments to find laws and make improvements to protect and better our country's marine environment, and make a contribution to the building of a theoretical system for our country's marine environmental science.

On the basis of the current state of development of research both domestically and internationally, and with a view to the future, we propose the following several projects as the focus of future research.

*This article was read in March 1979 at the Medical Science Symposium in the Founding Conference of the Chinese Environmental Science Society. It has now been slightly revised.

1. Thoroughgoing overall investigation of pollution in specially designated ocean areas of our country. This is for the purpose of providing basic data and a foundation for the formulation of marine environmental quality standards and policies for our country and for the control of marine pollution.

2. Vigorously intensify research into marine environmental pollution laws and purification mechanisms. The following problems currently required research: Global chemical problems including the major pollutants in the marine environment, their movement and change, their cyclical nature, and the balance between intake and depletion, and factors affecting them; exchange of major pollutants between the geological interfaces of the atmosphere and ocean water, with fresh water and ocean water in the oceans, and their dynamic processes; the rapidity of mixing, spread, and dilution of pollutants under different physical conditions; the process of absorption of sea bottom deposits and the subsidence of accumulated pollutants; the mechanics of the red tides; absorption of major pollutants by important economic organisms, their accumulation, transfer and end results, as well as their effects; the mechanics of decomposition of principal pollutants; launching of on site experiments at bringing under control pollution of the marine ecological system in order to evaluate the quality of the marine environment, and to provide basic data as well as a foundation about the capacity of the environment, and for calculating and forecasting.

3. Vigorous intensification of research on the effects of pollution and its impairment of the ecological system. Research should presently be undertaken on the following problems. Adverse effects on the physical and chemical properties of bodies of water of certain pollutants (such as hot pollutants, acidic and saline waste water, and organic substances); experiments on toxicity for the ecology of major pollutants and their long term chronic adverse effects on major economic organisms, with particular attention to the study of the reaction of organisms to pollution in terms of physiological changes, toxicology, form, relationship to environment, and heredity, the biological indicators of pollutants and their comparative study; effects of major pollutants on ecological systems and their components, including impairment of the mass biological population of each ecological type, on the community structure, the food chain and the conversion of energy in the ecological system, and the material cycle; adverse effects of major pollutants on the marine fishing industry and propagation industry and study of the methods of evaluation; development of research on mathematical models for pollution of the ecology so as to provide basic data and a foundation for an evaluation of the quality of the marine environment, and the formulation of standards for water quality for the fishing industry.

4. Develop comprehensive evaluation methods for regional marine environmental quality and the study of principles for it. This is for the purpose of providing scientific data for the formulation of comprehensive prevention and remedying of marine pollution in individual ocean areas, and for a strategic plan and tactical measures for improvement of environmental quality.

5. Strengthening of new scientific methods and new techniques for the study of the marine environment. Emphasis must be placed on intensification of the following tasks. Application of remote sensing, remote observation, and satellite technology in the investigation of marine pollution; application of electronic computers and isotope tracing technology; setting up of hydrophysical simulation for pollution, ecology simulation laboratories, and controlled marine ecology systems, facilities, and a system of on site testing of pollution, and advanced equipment for equipping environmental analysis.

Marine pollution and the study of its prevention and control has widespread and comprehensive ramifications. It requires joint combat by many sciences with a broad absorption of useful knowledge and accomplishments from pertinent sciences. It also requires organization of some special units to make new contributions ranging from research into the development and spread of pollution, conscious emphasis on several key problems, and tackling these problems to make breakthroughs in order to protect and improve the marine environment, and catch up with and surpass advanced world standards.

9432

CSO: 5000

'RENMIN RIBAO' COMMENTARY CALLS FOR ENVIRONMENTAL PROTECTION

OW011929 Beijing XINHUA Domestic Service in Chinese 1603 GMT 31 May 80

[Text] Beijing, 31 May--Today, while carrying an investigative report entitled "Restore Our Beautiful and Fine Mountains and Rivers--the Protection and Management Work in Guilin's Scenic Areas Must Be Promptly Strengthened," RENMIN RIBAO publishes a short commentary entitled "Take Guilin as a Warning." The following is the full text of the commentary:

Guilin is our country's famous scenic area. Today, this paper publishes a reporter's investigative report, reflecting the fact that this beautiful place is suffering from serious "three wastes" pollution and man-made damage. The departments concerned should not fail to pay great attention to what has happened in Guilin any longer.

The problem of Guilin is not an isolated one. At present, scenic spots and historical places in many localities are badly damaged, and some of them have even been brought to the brink of destruction. What were the causes of such conditions? The main cause was that some leading cadres cherished only production viewpoints but not ecological viewpoints, pursued only input-output value and profits without considering environmental protection, built plants wherever it was convenient and disposed of industrial residue, waste gas and waste water wherever it was convenient. Consequently, some beautiful scenic spots and historical places became occupied, overcrowded, polluted and damaged. This really distressed the people!

Mankind not only needs to carry out productive labor but also requires a beautiful and fine living environment. Scenic areas are important places where people may rest, enjoy amusement, engage in physical and mental cultivation and recover their energy. At present, many countries' travel and tourist businesses are being rapidly developed. In our country, there are magnificent mountains and rivers and beautiful scenic spots; so many people in the world are longing to see them. To do a good job in protecting and building scenic spots and historical places is of great significance in accumulating funds for socialist modernization and in promoting friendly contacts between the people of our country and the people of all other countries in the world.

To damage scenic spots and historical places in order to build plants and houses at will, are manifestations of activities which try to save a little only to lose a lot and of disregarding the whole situation and long-term interests. Leading comrades in Guilin Municipality and Guilien Prefecture should be held responsible for the exploitative damages done to the scenic areas in Guilin because of industrial construction and for the failure to conscientiously control pollution even after the state had appropriated investments for that purpose. We hope that they will adopt measures promptly to prevent other damage to scenic spots and historical places and formulate and improve rules and regulations to strengthen the protection of the terrain, land appearance, waters, rocks, animals and plants in scenic areas; strictly prohibit quarrying in the mountains, destruction of forests for land reclamation, hunting or grazing; and prevent unscrupulous dumping of garbage and the flowing of polluted waters.

Other scenic spots and historical places should take Guilin as a warning and make every effort to do a good job in protecting our motherland's beautiful and fine mountains and rivers.

CSO: 5000

PROFESSOR INTERVIEWED ON U.S. 'AGENT ORANGE' USE

OW150723 Hanoi VNA in English 0700 GMT 15 May 80

[Text] Hanoi VNA May 15--In an interview with the Hanoi monthly VIETNAM COURIER, Professor Ton That Tung, a medical figure, was asked to comment on recent alarming reports from the United States and Australia about the consequences of the U.S. chemical warfare in Vietnam. Professor Tung has published several works of his own or done in collaboration with others on the long-term effects of dioxin, the deadly poison present in Agent Orange, the defoliant widely used by the U.S. in southern Vietnam in the period of 1960-1971.

He said: Dioxin is an impurity which is always to be found in 2,4,5, trichlorophenoxyacetic acid. This substance, 2,4,5-T mixed with another, 2,4-D, made up the defoliant Agent Orange. Dioxin is a highly toxic substance which when given to animals in experiments caused necrosis of the liver, foetal deaths, miscarriages, chromosome damage, congenital defects and cancer. In the past, this substance was not given much attention, as it was believed harmless at concentrations less than one part per million (1 p.p.m. or 1/1,000,000 i.e. one gramme per tonne). But later it was noticed that it could be harmful at even a thousandth of that concentration (one part per trillion 1 p.p.t.).

It should be pointed out straightaway that the defoliants 2,4,5-T and 2,4-D which were used in enormous quantities during the Vietnam war are in themselves a danger to the environment and to life. Professor Epstein believes that 2,4-D and 2,4,5-T are themselves cancer-causing. Although in theory these two substances are broken down by micro-organisms in the soil in two to fifteen weeks, the same is not true for dioxin. It is not soluble in water, but only in alcohol and fats. It can only be destroyed at a temperature of 800 [degrees] C. It can remain for a very long time in nature, twenty years in a water environment, according to some writers.

The most dangerous thing is that it does not stay put, but is transported by water down to the sea. The greater the quantity of Agent Orange sprayed, the more dioxin accumulates in the environment and in organisms, while in the U.S. agricultural sprayings are made every ten years, in Vietnam the sprayings were massive ones, carried out daily in a certain zone. In 1970 in South Vietnam, dioxin was discovered in fish from the Saigon River.

Asked about the effects of dioxin on the environment, Prof. Tung said: Firstly there's the destruction of the environment. One of my colleagues has just made a trip together with a Vietnam television reporter to Tay Ninh and Rung Sat, which are regions affected by American defoliants. Some very expressive photos were taken. Look at these ones. These trees were contaminated ten years ago. Now they have not a single leaf, they're dead, completely hollow.

On several occasions I have talked of the cancer-causing effects of dioxin. To tell the truth, we have not enough money or equipment to carry out exhaustive research on the epidemiology of liver cancer in both north and south Vietnam. We would have to prove that dioxin persists in the environment and in human tissues. In fact even in the USA there are only two laboratories capable of testing for dioxin in doses of 1 p.p.b. We are appealing to the conscience of Americans to ask them to help us assess and limit the damage inflicted on Vietnam.

To give you an idea of the scale of work needed, I can quote Professor Westing, who estimated the quantity of dioxin sprayed on Vietnam at 550 kg, while a dose of a few thousand - millionths of a gram is already harmful.

He went on: In 1970 when Vietnamese doctors first brought up the question of the dangers of 2, 4, 5-T and 2,4,D, and especially of dioxin for the environment and living things, many scientists who attended the conferences maintained that the allegations were unscientific or just anti-American propaganda. When I visited the USA last year, I gave lectures in several universities and had talks with many Americans. Many people are beginning to believe that Agent Orange is dangerous. In particular, its abortifacient effect has been demonstrated in Oregon, and the E.P.A. has put a temporary ban on the use of 2,4,5-T. Experiments done in the USA have shown that dioxin causes cancer and is teratogenic (deforms fetuses) in monkeys. Today, dioxin can be considered as the most powerful cancer-causing substance in the tiniest doses.

It is true that American veterans of the Vietnam war have complained about the "delayed reaction" of the herbicides. When I got back from my visit I gathered together all the facts about the mutation-causing effects of the products. Observations were made on former soldiers who came originally from the north and who returned from the south of Vietnam to marry northern women. A great number of congenital malformations have been noted among their children. Australian veterans have also complained of congenital malformations suffered by their children. The Australian Government has ordered studies to be made of these veterans, using my clinical methods as their model.

CSO: 5000

BRIEFS

WATER SHORTAGE--Khartoum--A severe water shortage exists in al-Qadarif now as the hot summer season approaches. This perennial problem seems to be aggravated this year by the breakdown of the water pumps. Many neighborhoods of this city are short of drinking water. The local authorities are called on to provide more water tanks in the neighborhoods of al-Qadarif. [Excerpts] [Khartoum AL-AYYAM in Arabic 11 May 80 p 4]

CSO: 5000

NIGERIA DONATES MONEY FOR ETHIOPIAN DROUGHT VICTIMS

Addis Ababa THE ETHIOPIAN HERALD in English 27 May 80 p 3

[Text] Addis Ababa (EH)—The Federal Republic of Nigeria yesterday donated over 80,000 Birr to help in the efforts being made by the Relief and Rehabilitation Commission (RRC) to alleviate the problems of compatriots in the drought affected areas of Ethiopia.

The donation was handed over to Comrade Major Tesfaye Berhanu, Deputy Commissioner of Relief and Rehabilitation Commission, by Mr. M. B. Brimah, Charge d'Affaires of the Embassy of the Federal Republic of Nigeria in Socialist Ethiopia. The handing over of the donation took place at the Deputy Commissioner's office.

Sepaking on the occasion, Mr. Brimah expressed his sincere admiration for the commendable efforts the Government and broad masses of Socialist Ethiopia have been making to alleviate the sufferings of Ethiopians who are the direct victims of the drought that ravaged considerable parts of the country.

Mr. Brimah noted that the formidable task undertaken by the RRC with the active help and support of the Government and people of this country to evacuate hundreds of thousands of the drought-affected people from the disaster areas will forever be commended by progressive forces all over the world. He further stated that based on the recent briefings on the drought affected areas of Hararghe, Bale and Gamo Goffa administrative regions, and the needs identified during the visit of diplomats to Bume (in Gamo Goffa region), the Government and people of the Federal Republic of Nigeria have noted with deep concern the magnitude of the plight of the drought victims.

As regards the vast responsibilities of the RRC and the efforts being made to realize its objectives, Mr. Brimah stressed there is no doubt that the efforts made to generate internal public interest in relief and rehabilitation projects and sympathy for the plight of the numerous victims have been largely responsible for the overall success of the RRC. He further revealed that, the RRC being the very first institution to be established after the popular upsurge, has been seriously tackling its responsibilities.

In conclusion, Mr. Brimah expressed pleasure to present to the RRC, on behalf of the Government and people of the Federal Republic of Nigeria, the sum of over 80,000 Birr as Nigeria's contribution to the Relief and Rehabilitation Programme. This, he said, "will go a long way to complete the ongoing efforts of rehabilitation, relief and prevention of natural disasters."

Speaking on receiving the donation, Comrade Major Tesfaye outlined the efforts being made to alleviate the problems of Ethiopian compatriots in the drought affected regions. In this connection, he noted that although much has been done to minimize the plight of the compatriots in the drought affected areas, the magnitude of the disaster has necessitated the assistance of friendly countries and international bodies. Accordingly, he said, appeals have been made to the world public and encouraging responses are being received.

Comrade Major Tesfaye expressed his appreciation for the donation made by the people and Government of the Federal Republic of Nigeria in response to the appeal made and assured Mr. Brimah that the donation will go directly to help the drought affected people. It was learnt that the Federal Republic of Nigeria had earlier donated 600,000 Birr in 1973/74 to help drought victims and the present donation brings the total sum to nearly 700,000 Birr.

CSO: 5000

ANOTHER HIGH LEVEL TEAM TOURS DROUGHT AREA

Team Tours Area

Addis Ababa THE ETHIOPIAN HERALD in English 20 May 80 pp 1, 2

[Text]

NAZARETH (ENA) — A team of high-level government officials led by Comrade Brig. General Taye Tila-hun, Minister of Interior, has completed its inspection tour to drought hit areas in Fentale district of Yerer Kereyu province, Shoa region.

Comrade Lt. Col. Debela Dimesa, Chief Administrator of the region accompanied the team during its inspection to areas where drought has claimed considerable toll of cattle. The Debo and Dawa Abadir localities were singled out as having greatest animal toll.

Members of the team who had personal discussions with the drought affected people in those areas were informed that a great number of cattle have perished because of the acute shortage of pasture and water. The victims said that they have survived, through the urgent relief made by the government.

The administrator of Yerer Kereyu province briefed the officials that the

district of Fentale in particular was hit by drought due to the paucity of the big rains which were minimum in the previous year and absent during the past season. He said peasants and stock breeders were both seriously affected with the loss of a great number of animals.

The provincial economic development campaign executive committee, and mass organisations in the province have each agreed to contribute 50 Barr towards the relief assistance of the affected populace in Fentale district. He added that the government has also made timely aid to the victims.

At a meeting convened following the inspection tour, members of the team and others decided to set up immediately relief co-ordinating committees at regional, provincial and district levels to facilitate aid in the

form of food, water, health, transport and rehabilitation. Directives were given to the committees on how to tackle the human, cattle and wildlife problems of the natural calamity.

The inspection team was made up of officials from the Ministries of Interior, Mines, Energy and Water resources, Health, Agriculture, Domestic

Trade, National Defence, Transport and Communications, the National Revolutionary Development Campaign and Central Planning Supreme Council and Relief and Rehabilitation Commission.

The officials also visited the resettlement site in Deho locality and the water drilling equipment at the National Park in Awash.

Drought Donations

Addis Ababa THE ETHIOPIAN HERALD in English 21 May 80 p 8

[Text]

ASBE TEFERI — Units of a militia unit here donated various food items to the people affected by drought in Eastern Awash district, Cher-Cher Adal Gara-Guracha province of Hararghe region.

The food items included 96 boxes of bread, nine boxes of canned vegetable food, four quintals of corn, and 48 kilos of sugar. The members of the militia unit deducted and saved the items from their rations in order to help drought affected compatriots.

CSO: 5000

BRIEFS

STORM DAMAGE--Awassa--Torrential rains accompanied by gusty winds rendered out of use about 300 sacks of fertilizers which were to be distributed among the local populace in the town and its vicinity. The fertilizers were damaged when the store where 2,000 sacks of fertilizers were kept was inundated by the rains which also carried away the corrugated iron sheetings. Sixteen houses were similarly damaged in the same town. [Text] [Addis Ababa THE ETHIOPIAN HERALD in English 27 May 80 p 8]

DROUGHT AID COMMITTEE ESTABLISHED--ADDIS ABABA (ENA)--A committee chaired by Comrade Dr. Bezabih Maru, the First Deputy Administrator of Shoa region, was established with six sub-committees under it to study and coordinate aid in the three drought affected provinces of the region. Members of the main committee are drawn from different government and mass organizations, established in accordance with the instruction given by the Ministry of Interior. The committee will follow drought situations in the region and present a report to a committee that has been set up within the Ministry of Interior. It will also give instructions to sub-committees established with the region. Furthermore, the committee is charged with the responsibility of providing water wells, preparing silos and settlement areas, and creating other necessary conditions to help drought affected people. Members of the sub-committees were scheduled to tour Yerer-Kereyu, Tegulet-Bulga and Yifat-Timuga provinces as of yesterday and collect information on the drought in order to coordinate aid. [Text] [Addis Ababa THE ETHIOPIAN HERALD in English 22 May 80 p 1]

TREE PLANTING CAMPAIGN--Debre Markos--Representatives of government agencies and mass organizations of Gojjam region as well as executive committee members of the Regional Economic Development Campaign held a-day-long meeting Monday to discuss the planned deployment of students in the region in a tree planting campaign. The discussions on the campaign, involving students in the region was chaired by the regional deputy first administrator, Comrade Animut Kinde. Speaking during the occasion, Comrade Animut noted that the participation by the students in development activities along with workers and peasants reflects the correct approach to education thereby rendering them productive citizens. At the end of the meeting it was agreed that a five day educational seminar be arranged for selected teachers to be mobilized in the campaign under the auspices of the regional offices of the Ministry of Education and the Ministry of Agriculture. [Text] [Addis Ababa THE ETHIOPIAN HERALD in English 21 May 80 p 8]

NATIONAL CAMPAIGN TO CONTROL LAND BURNOFF

Maputo NOTICIAS in Portuguese 7 May 80 pp 1, 6

[Excerpts] In the National Park of Gorongosa, Sofala Province, 47 cadres from the Resources Conservation Department have completed the National Training Course for Provincial Land Burning Monitors. Sponsored by the Ministry of Agriculture, the course was aimed at the development of the National Campaign for Control of Land Burnoff. This campaign is among the measures outlined by President Machel during his historic visit to Niassa Province at the end of last year. It will be developed shortly throughout the country, and will consist of a vast action program involving several government agencies, with the guidance of the FRELIMO Party.

Preparations for the National Campaign for Control of Land Burnoff are already being developed within the process of the elections for the local and district assemblies taking place in the country. Pursuant to the guidelines defined in the Economic and Social Directives of the Third FRELIMO Congress in this regard, the campaign comes of the urgent need to promote broad popular mobilization and reeducation regarding the serious problem of the unrestrained practice of burning off land every year in our country, which has been severely damaging to our natural resources in general and to farming and fishing in particular.

The fact is that in all our country's provinces and districts, extensive burning is practiced as soon as the vegetation is dry enough to ignite. In many areas, the land is burned off every year, and some areas are burned off two or three times in a single year.

In addition to problems of erosion, loss of soil fertility and damage to underground water reserves, uncontrolled burning causes damage to dwellings, telephone poles, areas under cultivation and forest and wild animal preserves, and destroys the natural pasturage for livestock. There are also cases of accidents resulting in deaths.

Studies have been conducted regarding the burning, which has had an important part in reducing the potential agricultural production in our country. The studies have clarified some of the motives for burning off,

such as clearing land for agriculture, driving off wild animals to protect people and property or to make hunting easier, and creating pasturage for cattle during the dry season, as well as controlling certain plants, such as "monkey beans." Other causes included accidents or pure arson.

Action Program

Given that uncontrolled burning, whose major drawbacks are unknown to the large popular masses, is basically a political problem, intimately linked to the rural development process, and in light of the extremely generalized nature of the problem, broad action is being taken to educate the rural population in order to insure control over the situation.

6362

CSO: 5000

TAX RELIEF URGED FOR DROUGHT-STRICKEN FARMERS

Windhoek THE WINDHOEK ADVERTISER in English 27 May 80 p 3

[Text] Income tax should be frozen for drought-stricken farmers and the subsidy for the rental of emergency grazing should be increased, is the gist of a request to be directed by the SWA Agricultural Union to the AG's Council.

It was the general feeling amongst drought-stricken farmers in the south who attended a meeting at Karasburg that these measures would help considerably to alleviate their problems. Mr Dirk Mudge, Chairman of the Coordinating Committee of the AG's Council, Dr Louis Mostert, Director of Agriculture and Mr Henning Snyman, Director of SWAAAU also attended the meeting.

Mr Mudge said that income tax was clearly one of the major problems. If a farmer is forced by drought conditions to sell his animals, he immediately has to pay an enormous amount in income tax. He addressed the meeting on the appointment of a committee to investigate the drought conditions and to make recommendations to the AG's Council.

Dr Mostert said that the purpose of an aid scheme to keep alive a nucleus of 250 cattle and 1,200 small stock per farmer so that he can continue to breed a herd once the drought is over.

It came to light during discussions that there are farms in the vicinity with rentable grazing, but the owners want up to 70c per sheep per month. It was felt that it would be cheaper for the State if the subsidy for natural grazing was increased rather than pay for artificial grazing on the farms.

As far as the freezing of income tax was concerned, Mr Henning Snyman said that it would have to be ensured that people who received this concession returned to their farms.

CSO: 5000

NAMIBIA

BRIEFS

DROUGHT BECOMING 'CRITICAL--Windhoek--The widespread drought in Namibia already crippling farmers in certain areas, is becoming critical. The director of the South West African Agricultural Union, Mr Henning Snyman, said yesterday a "draastic" new plan would be the only solution to the problem. Mr Snyman said agriculture in Namibia would undergo a "very difficult" period before the next season of rains at the end of the year. "The drought belt, which has taken the shape in this territory of a horseshoe, has also grown considerably in the last two or three years," he said. Statistics on the rainfall in Namibia indicated the territory was going through a dry cycle which would end only after three or four years, Mr Snyman said. Grazing in certain areas could no longer support cattle and farmers would have to turn to sheep farming, he said. The agricultural sector would also have to consider total withdrawals of cattle from their lands for extensive periods to allow grass to grow again. The Administrator-General's Council has declared the whole Outjo district an emergency drought relief area. Among the measures taken by the council to ease the problem was a subsidy on third and fourth-grade meat so that farmers would effectively be paid out second-grade prices. [Text] [Salisbury THE HERALD in English 22 May 80 p 8]

CSO: 5000

GREENLAND MP SEES DANGERS IN CANADA TANKER ROUTE

Godhab GRONLANDSPOSTEN in Danish 27 Mar 80 p 3

[Text] Landsting member Sofus Joelsen enumerates in this article the dangers which may result if the Canadian state corporation Petro-Canada is allowed to ship gas in large oil tankers along the Greenland coast.

The Canadian corporation Petro-Canada is planning to begin extensive transportation of gas through Jones Sound (the sound between Ellesmere Island and Devon Island) and through Melville Bay and Baffin Bay. The plan will involve huge oil tankers sailing these waters in all seasons of the year, using different routes which will be utilized depending upon the season and the conditions of the ice. It is a further part of the plan that emergency harbors will be established along the sailing routes. This is all scheduled to be carried out in a few years.

In a world which is as highly industrialized as ours, and which therefore has an almost insatiable need for energy, it is a fact that from now on, oil will be drilled for in places which have previously been thought unprofitable.

With today's skyrocketing oil and gas prices, this will seem more and more attractive as time goes on, and it is completely understandable that the oil companies are showing interest in areas like arctic Canada.

Since these plans will have immediate consequences for the Inussuit, the inhabitants of Thule, I do not hesitate to share the following observations, which are of great concern to us who are the inhabitants of Thule:

We who live in Avanersuaq are greatly disturbed that these plans will be carried out,

--because we believe that the hunters' basis of existence will be seriously threatened,

--because we believe that the migration routes of the animals they catch will be disturbed,

--because we believe that the winter ice, which for most of the year is the locus operandi of the hunters, will be destroyed by the oil tankers,

--because we believe that pollution from the tankers will chase the animals away,

--because we believe that accidents which might occur would be dangerous to the catch, and

--because we know that the ecosystem in the polar regions is very sensitive, such that any intervention in nature leaves effects which can last far into the future.

The industry of hunting is the only profitable one in the Thule area. In contrast to the rest of Greenland, there is no organized fishing industry for the simple reason that there are no fish. However, to be completely accurate, I should mention that in some of the settlements halibut are caught with rods and reels, but this activity is not of a large enough scope to ever turn into an alternative industry.

We believe that the animals' migration routes will be disturbed because the proposed shipping routes cross that area of the ocean where the Thule hunters' catch swims between Greenland and Canada. The most important animals which migrate using this area are the different types of seals, white whales and narwhals, walrus and polar bears. We have reason to fear that a disruption of the migratory routes of these animals would be a threat to the existence of the hunters.

It has been proposed that the tankers will follow four different sailing routes. These routes will be used depending upon the season and the condition of the ice. In other words, each of the routes will be used on and off throughout the year. The route which comes closest to the Thule area passes just outside of the 12-nautical-mile border opposite Savissivik. As the days grow longer, from the middle of February on towards summer, the hunters of Savissivik carry on their hunting of seals and polar bears as far as 100 nautical miles from the Savissivik area. This is done on sleds. As I just mentioned, one of the shipping routes passes just outside of the 12-nautical-mile border. This means that the Savissivik hunters' sledding routes will be destroyed because the tankers find it necessary to sail so close to land.

Noise pollution and pollution in the form of oil spills and refuse will chase the animals away from the routes which the tankers propose to use.

Since the tankers will sail the area between Greenland and northern Canada so extensively, the danger of accidents to the ships will be great. The danger is intensified by the fact that this is a polar region, where nature can summon huge forces in the form of winter and summer storms, which can easily pack the ice together. Should an accident happen--though I hope that it will not, of course--oil leakage would occur, which most likely would threaten the living resources which the hunters' catch animals are dependent upon. Has the danger of oil leakage been thoroughly researched? What kind of danger would be involved to the animals? Etc., etc.

All of Greenland cannot do without a single hunting district, because these hunting areas are involved in supplying the world with Greenlandic products. No Greenlandic interests will be served if the Thule hunters' basis of existence is threatened. Therefore we appeal to our fellow Danes on the continent to support us in this matter which is so vital to us.

Petro-Canada will, without doubt, try to carry out its plans, since the shipping routes are located in international waters. It is a characteristic of large corporations that they must make their profits, and that the concern for individuals is often easily forgotten.

We are seriously concerned at the possibility that the Thule hunters' existence will be threatened.

Therefore, we request that not only the Landsting, but that all of Greenlandic society give us moral and physical support.

We request that the use of the shipping routes not be initiated before all effects, dangers and eventualities are studied in detail. The Landsting does not need to take a position on the entire issue until materials are available which explain the situation in detail. We also request that alternatives for the transportation be thoroughly studied and analyzed.

The town council of Thule is performing a praiseworthy action by taking this initiative. It can thus be demonstrated that the town council is involved in working very closely with the Landsting on the matter. Besides this, the town council is attempting to make contacts with the northern settlements in Canada--the Baffin Regional Council, as it is called, as well as an ombudsman group which is working for Petro-Canada. The task of the ombudsman group is to explain the situation to the local inhabitants. So there is some hope that constructive cooperation may be achieved in this matter.

We need only to convince the rest of Greenland to stand with us, and the battle will be won. We therefore urge the kalaallit to support us.

9584

c 80: 5000

GREENLAND MINING FIRM DEFENDS ENVIRONMENTAL EFFORTS

Godthab GRONLANDSPOSTEN in Danish 27 Mar 80 pp 1,2

[Text] Greenex, Incorporated believes that the environmental situation has greatly improved at Marmorilik. However, the Greenland Ministry has not yet officially expressed an opinion of the results of the environmental research. The Committee on Raw Materials will visit the mining town in June.

Information provided by Greenex, Incorporated indicates that the Greenland Ministry's demands for a significant reduction in the pollution of the fjord system around Marmorilik have been met. Company director Erik Sprunk-Jansen told GRONLANDSPOSTEN that the latest measurements show a decline in the lead level in the Qamarujuk fjord inside of the control zone to 1/12 of the level measured several years ago. Similarly, the zinc level has dropped to a third of the former readings.

The reason for this difference is that various steps have been taken in Marmorilik towards limiting pollution in the mining town itself and in the waste products which are left behind after the lead and zinc have been refined from the ore.

Ecology Patrol

Sprunk-Jansen announced the formation of a special ecology team composed of four men. Their one concern is to try as much as possible to prevent leakages of zinc, lead and other substances into the mining settlement. Among other things, protective shields have been erected in a number of places where lead concentrate, which can become scattered by the wind into the terrain and into the water, had been spilled.

Chemical Follow-Up Work

But the most impressive results were achieved in the chemical processing of waste products formed in the production of zinc and lead concentrate.

Erik Sprunk-Jansen explained:

"Every year 1,200 tons of waste products are discharged into the little fjord Agfardlikavsa. We have concluded that the waste products are most likely located there, because winds do not reach there. When we started production in 1972, everyone figured that the waste products would sink to the bottom. But it later became apparent that approximately one percent of the waste products were soluble in water, and therefore entered into the water currents in Agfardlikavsa and farther out into the Qamarujuk fjord."

Lead Leakages Cut in Half

"In 1978 the buildup of lead at the bottom of Agfardlikavsa amounted to 6 tons per day, and a small portion of this entered into the water and was taken by currents farther out into Qamarujuk. In 1980, thanks to the chemical processing of the waste products before they are deposited out in Agfardlikavsa, the lead buildup has been lowered to approximately 3 tons daily."

From 18 Tons to 1.2 Tons

Sprunk-Jansen adds that this cutting in half of the lead input into the Agfardlikavsa fjord has resulted in a substantially smaller lead input into the Qamarujuk fjord. "The equivalent of 18 tons of lead was measured inside the control zone of the Qamarujuk fjord in 1979. The new readings show a level of approximately 1.2 tons of lead in Qamarujuk, a drop in lead level to 1/12 of the earlier level," says Sprunk-Jansen. Similarly, the zinc level in Qamarujuk has been reduced to 1/3 of the former amount.

Sprunk-Jansen adds that Professor Per Soltoft has been the technical scientific adviser for Greenex, Incorporated in its efforts to reduce the leakage of metals into the fjord system. In connection with these efforts, methods have been developed which will be used to seal off the Agfardlikavsa fjord when the Black Angel Mine ceases to yield zinc and lead.

Fjord Bottom Can Be Sealed Off

"For the sum of approximately 16 million kroner, we can cover the fjord floor with a layer of marble dust, which will prohibit further dissolution of the waste products from the ore refining which have been deposited at the bottom of the fjord. We will do exactly that, if the Greenland Ministry at the time should desire it," Sprunk-Jansen concluded.

The reason behind the apparently improved environmental situation around Marmorilik is a demand made by the Greenland Ministry in mid-1978. The Ministry demanded at that time, on the basis of its own environmental research, immediate action to reduce the pollution of the fjord system. It was included in the Ministry's proposal that Greenex's permit could be confiscated and the situation reevaluated if a significant environmental improvement was not achieved.

Ministry's Reaction As Yet Unknown

It was part of Greenex's original plan to include the possibility of depositing the waste products in one other location besides the Agfardlikavsa fjord, or to build a breakwater between Agfardlikavsa and Qamarujuk. Instead, Greenex later chose to try to decrease the metal pollution by chemical means, and this has apparently produced good results.

Greenex has periodically reported its results to the Greenland Ministry, but the corporation has as yet received no indications as to whether the Ministry is satisfied. Marmorilik is on the agenda for the next meeting of the Committee on Raw Materials, and plans have been made for the committee members to visit Marmorilik in June in connection with this meeting.

9584

CSO: 5000

LAW INADEQUATE TO HALT POLLUTION OF LITTLE BELT

Copenhagen BERLINGSKE TIDENDE in Danish 7 May 80 p 11

[Article by Lisbeth Nebelong]

[Text] Denmark's environmental law, called the best in the world, is not working. It has too many loopholes and needs revision in the view of the Danish Sport Fishermen's Association.

In cooperation with the Danish Conservation Society the association sought to bring charges in a case involving waste water pollution of the Little Belt, but the Environmental Appeals Board has just ruled that the organizations are not entitled to bring suit. This decision is not being accepted and the association's environmental consultant, Borge Christensen, is writing to the parliamentary ombudsman who will be asked to look into the case.

The association is requesting that the right to bring charges be expanded and the ombudsman is also being asked to take the initiative in making sure that the environmental protection law, which will be reviewed by Folketing this fall, is expanded in several important areas: environmental organizations should be included on the Environmental Appeals Board and penalties for pollution should be increased so that it no longer "pays to pollute."

Dangerous Environmental Poisons

For years the Danish Sport Fishermen's Association, which represents over 300 local groups with a total membership of around 50,000 people, has sharply criticized the discharge of waste water into the Little Belt, especially by these two firms, Superfos Fredericia, Ltd. and Fredericia Cellulose Factory. Superfos dumps about 800,000 kg of phosphorus into the water annually. It also discharges large amounts of copper, lead and nickel but the worst in the opinion of the association is the roughly 700 kg of cadmium that is discharged annually. Cadmium is one of the most dangerous environmental poisons. When the substance

has been absorbed into the system it can never be eliminated again and it can damage the liver and kidneys, among other things.

Large quantities of phenol among other things are discharged from Fredericia Cellulose and the organic matter discharged is the equivalent of the waste water from a city of 1 million inhabitants, according to Borge Christensen.

Fish Sick

Algae, one of the first and clearest signs of pollution in a body of water, thrive on the bottom of the Little Belt but the fish are having a hard time. Large oozing sores are one of the symptoms they swim around with as a result of pollution and studies have shown that out of 1000 codfish caught in these waters 600 are unfit for human consumption.

Time after time environmentalists and environmental groups have issued warnings and demanded a halt to the discharge of waste water. But so far with little effect. When the firms asked Vejle County last May for permission to continue to discharge waste water and the request was granted until 31 December 1984 Borge Christensen pounded on his desk and appealed the county administration's decision to the Environmental Protection Agency. But the appeal was rejected. Organizations may not appeal under the environmental law was the response given. After that the group appealed to the highest authority on environmental matters, the Environmental Appeals Board, which confirmed the decision of the Environmental Protection Agency on 24 March. But the organization feels the case is so important that it is trying the last resort, the parliamentary ombudsman. The group is dissatisfied with the interpretation of paragraph 74 of the environmental law which states that "anyone with a major individual interest" in a matter is entitled to make a complaint.

Paradoxical Legislation

If environmental organizations don't have a major interest in protecting the environment, who does? the organizations ask and they feel the paragraph should be interpreted differently. The paradoxical part of it, according to Borge Christensen, is that organizations have been declared entitled to make a complaint in fresh water areas. The parliamentary ombudsman has now asked the Environmental Protection Agency and the Environmental Appeals Board to issue statements. And that is where the case stands now.

"We must have the pollution stopped as quickly as possible. And we have asked the two firms to come up with a plan on how to combat it by July so that purification of the waste water can start by 1 July next year," Borge Christensen said.

Economy and Health

"Obviously this will cost money but that should not be the decisive factor. In Sweden environmental issues are treated much more seriously than they are here and firms there simply have to pay the price. Aside from the fact that it costs many hundreds of thousands each year to stock fish we want to protect people's health and leisure time. But we're not being allowed to do this. In this country only the business interests, in other words those doing the polluting, are entitled to appeal, not us. It is true that medical officers can bring a complaint but in practice it is very seldom done."

People Entitled to Appeal

Borge Christensen said the question of who is entitled to make a complaint is extremely important with regard to protecting the environment as much as possible. EEC directives and official Danish regulations aimed at limiting waste water pollution should not be interpreted by the businesses concerned but by the people living in the areas where the pollution occurs.

"The Little Belt is a sick body of water and the question is whether it can survive ecologically for another decade unless some action is taken. Therefore we environmental consumers should be able to contest the rules handed down by a near democracy, in this case the county, by appealing to the central authorities. If we don't get action now through the Folketing ombudsman it will be quite clear that our environmental law is the best in the world--for businesses."

The Danish Sport Fishermen's Association is holding a meeting for members on Saturday at which the right to appeal environmental matters will be one of the topics discussed.

6578

CSO: 5000

NEW STUDY: HEAVY METALS IN GREENLAND FOOD CHAIN

Godthab GRONLANDSPOSTEN in Danish 13 Mar 80 p 1

[Text] The mercury level is relatively high in the population of Greenland, and new studies have been requested in order to avoid higher levels.

The inhabitants of Greenland are ingesting rather large quantities of mercury in seal meat, whale meat and entrails. Studies were conducted in September and October 1979 in Upernavik, Umanaq, Nuuk and Qaqortoq. The conclusions from the study confirm that the mercury level is high, specifically in the hunting districts.

However, the level is below that point which can lead to mercury poisoning. New studies will have to be conducted, though, in order to ensure that the level will rise no higher. A higher level could involve the causation of birth defects, the report says.

The study was commissioned and funded by the Commission for Scientific Research in Greenland.

Besides mercury, tests were made for cadmium and lead levels. The statistics were analyzed by Jens C. Hansen of Aarhus University.

Also High Cadmium Content

He also reveals in his report that high concentrations of cadmium are present. But there is no definite correlation between the concentrations of cadmium in blood and hair samples and the Greenlanders' eating habits. Cadmium levels in Greenland are chiefly the result of cigarette smoking, just as they are in other countries.

The lead content in the analyzed food products was low. No correlation could be shown between blood lead levels and eating habits. Also, none of the statistics on blood lead level exceeded the maximum allowable amount in the EF. The blood lead level was generally higher than that reported from Denmark, but this can be assumed to be a result of the geological conditions, because the Greenlandic subsoil contains lead.

Lead Content

It was noted in the report that blood lead levels in persons from settlements in the vicinity of the lead and zinc mines in Marmorilik were no higher than those of persons from other parts of Greenland. But in the hair level analyses, individual cases were found of less high concentrations of lead in persons who live in the vicinity of Marmorilik. --This may indicate that the immediate neighborhood of the mine is actually less affected by lead, says the report.

9584

CSO: 5000

WATER AUTHORITY STUDIES SAIMAA CANAL ENVIRONMENTAL IMPACT

Gains Greater Than Losses

Helsinki HELSINGIN SANOMAT in Finnish 26 Mar 80 p 9

[Article by Aila Kayhty and Jussi Ojalahti: "Saimaa Water Control Controversy Accelerating"]

[Text] Savonlinna (HELSINGIN SANOMAT)--At their information meeting on Tuesday [March 25], Water Authority management assured water use planners and fishing industry representatives that it will take years of water flow in Vuoksi Stream before the plans for the Saimaa Lake water control will be realized.

The Water Authority has examined the advantages and disadvantages of the water control plan and reached the conclusion that the total gains ensuing from regulation are clearly greater than the losses.

It transpired in this meeting, held in Savonlinna, that the parties informed, i.e. the various Saimaa region officials, continue strictly to oppose the regulation.

The Water Authority on Tuesday held the first of an intended series of information meetings that aim "to give as many Saimaa shore dwellers as possible as unbiased a picture as possible of the regulation pursuit." Chief Director Simo Jaatinen stated repeatedly that neither he nor the Water Authority pursues anybody's private interests in their preparations of plans. "As civil servants, we have sincerely sought for the best possible alternative for the drainage of flood waters which is at any rate necessary on Saimaa," he said.

Water Court Phase to Begin Soon

Jaatinen emphasized that the effect of the planned regulation on the surface fluctuations of the Saimaa lake will remain very minor. Because knowledge of this water area is quite minimal, however, it has been deemed necessary to conduct a fishing industry study in the area. The study,

which is going to cost over 2 million marks, has already been begun, with an initial allotment in the budget of 465,000 marks.

The Water Authority has recently applied for a permit from the government to submit to Water Court hearing their regulation plan, which has been worked on since 1976. The normal survey procedure is already considered likely, although the final decision on procedure will be made by the Water Court of Eastern Finland. Only after a permit from the Water Court will it be possible to start negotiations for an agreement between the Finnish and USSR governments.

Chief Director Jaatinen assured that the primary goal at the Water Authority as well as in the border water commission will be the welfare of the Saimaa shore residents. The most problematic area in the advantage/disadvantage calculations is indeed the fishing industry.

For the above reason, the purpose is to clarify thoroughly the fishing industry conditions of the water district at the present time as well as after regulation measures have already begun. Mr Jaatinen also believes that it will be necessary to determine the benefits and losses from power industry and pay compensations afterwards at regular intervals.

In the discussions at the information meeting, the Water Authority met immediately with a real downpour of protest from the "beneficiaries" of the shores. Among others, the fishing industry districts and environmental organizations as well as the Forestry and Agriculture Department's fishing and hunting office declared that the traditional system of exceptional circumstance draining was considered to be the best solution also for the future.

As before, the entire project was criticized as control for the sake of the hydraulic power industry alone, and it was pointed out that not even the benefits for the power industry had been really ascertained. The benefit/losses calculations which the Water Authority had included in its plan were also considered to be vague almost throughout, and new objective comparisons of interests were called for.

Office engineer Markku Ollila, who presented the regulation plan, stated that the main goal of regulation was to bring down the Saimaa floods, thus helping both forestry and agriculture as well as the shore structures. Regulation also will bring up the lowest water levels during the dry periods. Vessel traffic, timber floating and recreational use benefit from this.

The hydraulic power industry, however, loses energy. Because of this, the four power stations in Vuoksi (two in Finland and two in the USSR) will

be given permission to drain according to their power needs in the so-called medium range, i.e. when the water level is at its most natural.

Ollila stated that the changes of the water level in the 4,500 square meter water basin are so slow that it will not be possible even with regulation to create significant change in the water level rhythm. The most essential effect in the Vuoksi flow would be the lessening of the summer flow and a correspondent growth of the winter flow.

The fact that draining would be increased by concentrating it in the winter season has made especially the fishing industry representatives suspicious. Also biologist Pertti Seppanen from the Water Authority, who presented the fishing industry studies, admitted that the low water level in the spring would endanger the ecology of the shore area and threaten the spawning of whitefish especially.

Engineer Ollila also presented the profit calculations in support of the plan, in which estimates had been made on what the effects of regulation on different modes of use would have been if regulation had been in effect from 1922 to 1975.

The net benefit for agriculture had been calculated to be 2,5 million marks, for forestry 11 million marks and even for vessel traffic between 0.5 and 5 million marks.

In the benefit column, the sum total arrived at for the power industry was "notable." For the fishing industry, both the benefit and losses columns had been marked with a "maybe." In the losses column, the losses for agriculture were 0.2 million marks and for power industry as much as 32 million marks.

"Total Benefits Greater Than Losses"

When these "maybes" and millions are added together, the final result is that the total advantages from regulation are clearly greater than the disadvantages. The final result is based on the assumption "that the losses for the power industry will be retrieved mainly through the drainings in the medium range and that the shore structures, for example, are going to receive major benefits from lowering the floods."

It is assumed that the fishing industry's possible gains will be through facilitated traffic on water due to the lesser fluctuations of the water levels. On the other hand, even according to Ollila, draining in the medium range in accordance with the power industry needs may especially impede the success of fish spawning.

The lower than natural water level in the winter season is a disadvantage according to Ollila too. The ongoing investigation has been designed to study precisely these matters.

However, Ollila considers regulation according to rules to be incomparably more advantageous for all parties than draining in exceptional circumstances only.

The fishing industry spokesmen in the meeting expressed doubt over the future significance of the fishing industry study.

Jyväskylä University and the water offices of the Kymi, Mikkeli and Northern Karelia provinces' water districts are responsible for the studies. The basic investigations will be conducted in 1980-82, and the follow-up in 1988-90.

Opposition Growing on Saimaa Shores

Helsinki HELSINGIN SANOMAT in Finnish 26 Mar 80 p 9

[Text] Lappeenranta (HELSINGIN SANOMAT)--The back-and-forth movement of the rocking chair on the living room floor stops abruptly as Olavi Mattila, foreman of the Haukilahti fishing division in Joutseno and a farmer, formulates his own Saimaa resolution:

"If Saimaa is going to be burdened with regulation too, it will be the final death blow for the lake."

In Mattila's opinion, the regulation would make Saimaa into a spawning basin for frogs, a water system for worthless fish where one would not want to take one's fishing gear even for a hobby.

It is actually true that valuable fish do not thrive in southern Saimaa even now. The participants in a recent deep-water angling competition presented the Mattila ox with their perches and little dace; the ox has learned to accept the bad-tasting fish. The farmer himself says he eats them too, because discrimination against Saimaa fish is in his opinion much a matter of prejudice.

Until now, water spoilage by the industry's waste waters, the bad-tasting fish and the disappearance of valuable fish have been the major topics of concern among the Saimaa fishermen as they meet in community get-togethers and out on the village roads.

It has been such a major concern that the approach of maybe an even much greater one, the Saimaa regulation, has not even been comprehended until now.

Information Over Fisherman's Head

The formulas presented in the newspapers have been over the head of an ordinary shore resident. The matter has been too voluminous to digest in one go.

Saimaa residents say that it is possible to grasp a case of a Kotjarvi [cause celebre for environmentalists in Forssa], but once you are faced with the largest fishing area of all Europe, over 300 bodies of lakes, over 5,500 square kilometers of water surface, the home shores of nearly half a million people, the case goes over your head.

Olavi Mattila, foreman of a fishing division, has formed a view of the consequences of regulation:

"When the water height is regulated in contradiction to the laws of nature, the spawning of pike, burbot, bream and whitefish will no longer be successful. Especially fall-spawning fish--whitefish, small whitefish and migratory sea trout--will face the danger of having their spawn left dry in the winter when the water level goes down."

The shores would be covered with stinking mud slough that would leave slowly when the water level changed; the shores would change from lush to barren.

The residents of the shores would have to be prepared to dig new wells. The pastures on the shores would have to be fenced anew for the animals every summer, because a fence built in the water would move about with the water fluctuations. The traditional boat jetties would move heaven knows where.

"We should get by with normal flood period draining. Also, I cannot believe that as big a country as the USSR would miss the few kilowatts that our small Saimaa could produce," Olavi Mattila says.

He is, however, quite pessimistic over the fate of Saimaa: some loopholes can always be found in the Water Law that make it possible to pull through the regulation regardless of any survey operations. And it would be quite an operation if all the 40 municipalities of Saimaa district were to be surveyed starting from the level of public hearings.

If remuneration policy is pursued, time will float by for many a fisherman getting on in years, Mattila among them. In southern Saimaa, the compensations for waste water damages have been due for seven years now, and not a penny has been forthcoming.

The Saimaa residents think of their northern comrades in misfortune: no compensations have been received there either, and their home lake has been under regulation for years now.

"Gain to Power Industry"

The approximately 1,500 professional fishermen of the Saimaa lake, if no one else, know very well whom the profits are addressed to: to the power industry. The farmers also tend to agree.

"It is of course clear that one should not drain water for nothing during an energy shortage; but, on the other hand, neither should it be stored away on the farmer's field," contemplates Raimo Monto, a farmer from Savilahti Village in Ruokolahti Municipality.

After the 1974 flood summer, the Monto fields were terraced as protection against any future floods. These terraces have not yet been subjected to a real test since there have been no big floods in recent years.

It has been estimated that over 1,000 hectares of agricultural land in the Saimaa area have been rescued by terracing from the depredations of flooding.

The opponents of Saimaa regulation have criticized the Water Authority also for neglecting to include in its calculations these terraces, numbering in tens, and for basing the agricultural gains information on the 1950 figures instead.

The Saimaa district environmentalists have been served with a fair chunk of the fatherland to work for: it includes practically all of Lake Finland--quite a way to celebrate the Year of the Environment.

The environmentalists smell a rat in the matter of the Saimaa regulation project, no matter how fancily wrapped this deal would be.

The environmentalists say that it is hard to believe that the Water Authority would promote the regulation if it were not advantageous for the power industry. The environmentalists claim that the regulation project is based on power industry mathematics.

Olle Sipari, a Lappeenranta doctor and a bird enthusiast, sums up the environmentalists' view by claiming that regulation projects as a rule constitute mismanagement of the environment that is bound to bring unfortunate consequences, and that the final profit goes to the power industry.

Sipari is one of the initiators of the Saimaa petition. The petition is being circulated all over the Saimaa district this spring. With this list, the environmentalists hope to tell the decision makers what over 450,000 people of the Saimaa district think of the intended regulation.

Central Union of Fishing Industry Demands Relinquishing of Regulation Plan

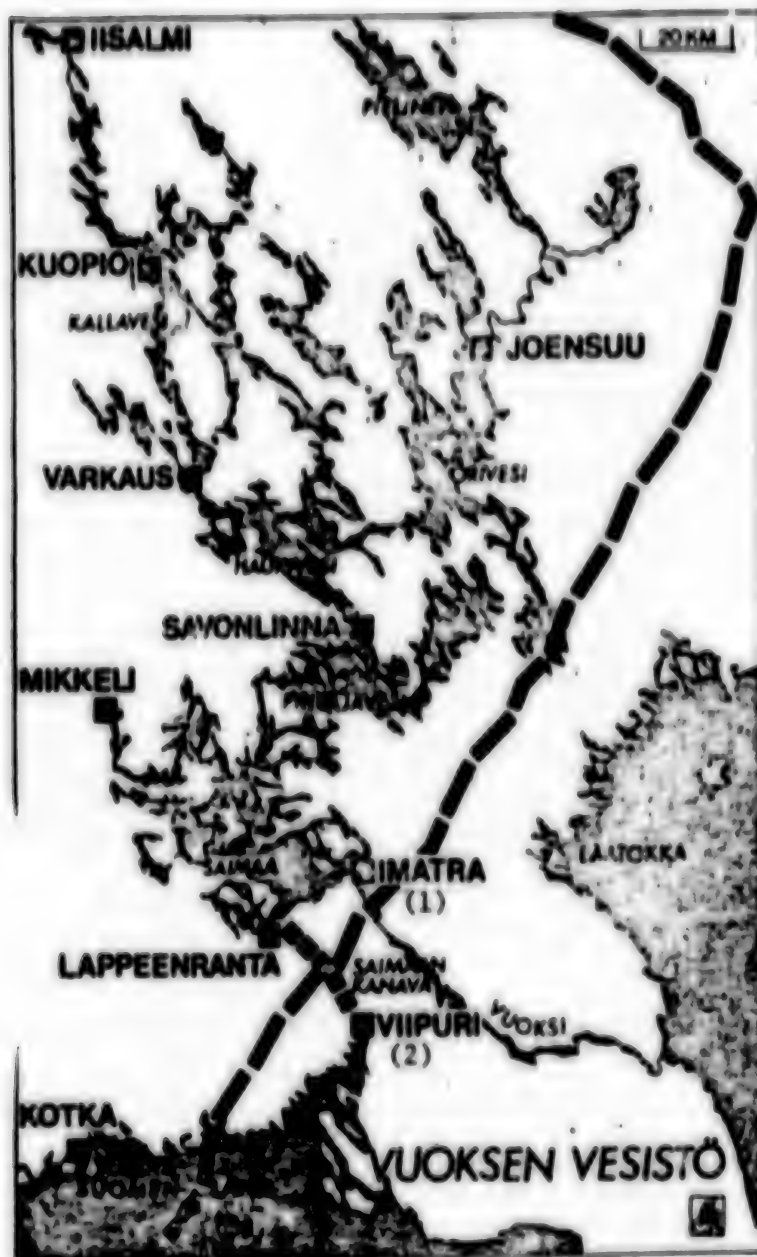
In the opinion of the Central Union of Fishing Industry, the Saimaa regulation project should be relinquished altogether. The union presented an official statement about this matter at its representatives' meeting on Tuesday [25 Mar].

According to the union, preservation of the natural state of the Saimaa waterways is a national responsibility. After regulation, the water levels would vary in discord with the natural rhythm.

According to the union, the vast flood damages that occur in the Saimaa area at approximately 13-year intervals could best be diverted by flood-time drainage.

The union feels that if regulation is undertaken despite everything, it should not be executed without proper permits. The professional fishermen, owners of fishing waters, and other concerned parties should be reserved an opportunity to present their comments and demands concerning the plan.

The negative aspects of regulation would affect the livelihood of the approximately 1,250 professional Saimaa fishermen and cut into profits of those approximately 100,000 people who fish for their own household use or for recreation.



Saimaa ulottuu etelässä Lappeenrantaan, lännessä Varkauteen ja idässä Joensuuhun. Säännöstelyn vaikutukset ulottuisivat myös Pielisen ja Kallaveden vesialueisiin.

Key:

- (1) Saimaa Canal
- (2) Vuoksi Waterway
- (3) Gulf of Finland

Saimaa Lake reaches the city of Lappeenranta in the south, Varkaus in the west and Joensuu in the east. Effects of regulation would be felt also in the Pielinen and Kallavesi water districts.

9571

CS0: 5000

FOREST AUTHORITY DENIES INDUSTRY MAJOR ENVIRONMENT FACTOR

Helsinki HELSINGIN SANOMAT in Finnish 26 Mar 80 p 28

[Text] The claims that forestry is a cause of environmental damage are often unfounded, because clearing of forests, aerial spraying of brushwood and forest fertilization do not generally cause the environment any significant damage, according to Paavo Jokinen, the Forestry Department's chief director, who spoke at the opening of Forestry Week.

On the other hand, Jokinen admitted in his speech that the forest harvesting techniques favor systematized methods of managing forests. Roads have also been built in the forests so that unreasonable scenic damage has been caused.

There has often been a tendency to condemn complete clearing as an unnatural activity that is a threat to the future of the forests, Jokinen stated. However, complete clearing imitates the way nature manages forests. It has been a successful method most of the time, and vigorous fields of saplings have been created without environmental damage, he said.

According to Jokinen, natural rejuvenation should be, however, promoted when possible while taking into consideration the character of the site and the opportunities created by the existing forest.

The aerial spraying of brushwood has not caused extensive fatal changes in the natural state of these bushes, according to Jokinen. However, he emphasized that foliage spraying must not become a goal in itself or a question of authority and at the same time expressed a wish that this "worst overstressed environmental evil" be done away with by reducing aerial spraying of foliage to a minimum.

Chief director Jokinen admitted that forest industry has caused some damage to the environment. He criticized the now available technology on the basis, for instance, that it favors systematized management of the forests. The machinery should be planned for the forest, otherwise we will have to grow forests that suit the machines, in violation to ecological laws, he said.

There is a negative environmental impact as a result of building car roads in the forests. Forest landscape has been sometimes damaged unreasonably by building and planning the roads as cheaply as possible. In order to cut expense, these roads have been planned and built so that the forest landscape has been unreasonably spoiled. Special attention should be paid in the future to staking out these roads to suit the terrain as well as completing them carefully.

After the on-going Year of the Environment, we should start planning for a national Year of the Forest, Jokinen suggested. As forests and the changes within them are regarded mainly from the ecologists' point of view, there is a danger that the significance of certain disadvantages and negatively evaluated changes is overemphasized. The achievements that will benefit society are easily overshadowed by mistakes that are easy to correct and as such may be even insignificant, Jokinen said.

Minister of Defense Lasse Aikas read the Forestry Week opening speech prepared by Minister of Agriculture and Forestry Taisto Tahkamaa. The speech emphasized that Finnish forestry reserves are so significant in supporting both foreign trade and self-sufficiency that we cannot afford to squander opportunities to be gained through the development of forestry. This is the 32d time the Forestry Week has been organized. The organizer is the Forestry Union of Finland.

9571
CSO: 5000

ADR RULES ON HAZARDOUS MATERIALS TRANSPORT ADOPTED

Oslo ARBEIDERBLADET in Norwegian 10 Apr 80 p 21

[Text] As of 1 April new rules became effective for the transportation of dangerous materials on Norwegian highways. They conform to the ADR [European Agreement on the Transport of Hazardous Materials by Highway] convention, and for those who carry dangerous materials in tanker trucks it will be a set of instructions which clarify what kind of material is transported and what should be done in the event of an accident.

The regulations themselves are quite brief, but they refer to detailed decisions which were worked out by a group of international experts in ECE [Economic Commission for Europe in the United Nations]. It is a document of 600 pages which has never been translated into Norwegian, according to Chief Engineer Jorgen Aall Myhre in the Highway Commission. But companies such as large chemical firms will need the complete ADR decisions, which are published in English, French, and Swedish.

In Norway we have long had regulations which cover inflammable and explosive goods. The new regulations cover materials which are poisonous, caustic, or dangerous for other reasons. Tanker trucks which transport hazardous cargo must have their tanks inspected once a year.

In addition there are regulations for markings; international standard symbols will be used, such as, for example, the skull for poisonous materials. Trucks which transport hazardous materials will have orange signs on the front and back, and tankers will display numerals giving information on the contents. The numerals are part of an international system. Information about the system and what the numerals stand for is sent to the police, rescue stations, and other authorities concerned.

Other than the above there will be no general restrictions, but there is an obligation to report transportation of hazardous materials. When it

becomes necessary, special arrangements can be made so that the transportation can be accomplished.

Chief Engineer Myhre said, "The need for new regulations became apparent because there has been a marked increase in the use of hazardous materials in industry and farming, and also in the home. Accidents in other countries have made us aware that sooner or later a critical situation could arise. When the new regulations take effect, we believe that we will have come a long way toward preventing accidents."

9287

CSO: 5000

REPORT ANALYSES WASTE RECYCLING BUSINESS

Oslo AFTENPOSTEN in Norwegian 1 Apr 80 p 16

[Text] Large quantities of waste material are sold through the country's approximately 300 junk dealers. According to an investigation conducted by SINTEF [Society for Industrial and Technical Research] they collect a minimum of 400,000 tons of metals, returnable bottles, paper, textiles, and plastics yearly. SINTEF concludes by saying that if the country wants to encourage the recycling of important materials, the junk dealers must be included in the effort.

Based on the information which SINTEF has collected from junk dealers, these businesses take in about 330,000 tons of iron and steel scrap, 17,300 tons of copper and copper alloys, 18,000 tons of aluminum and aluminum alloys, 6,000 tons of lead and lead alloys, and 3,900 tons of zinc scrap.

Locally there is strong competition among scrap dealers, who employ altogether 1,200 people. Wage conditions in this business are usually bad. Because of this, many smaller junk dealers complain that the competition is a danger for the entire business, and that the authorities must limit opportunities for new junk businesses.

According to the SINTEF report there is also dissatisfaction that export limitations have been placed on certain waste materials, especially metals. If these restrictions were lifted, it is believed that this would not lead to increased export, but that the junk dealers would get a price for their material which would correspond to the price on the international market.

The business is also interested in expanding its activity and has begun collecting other waste materials than those which are sold today. There is increased interest in collecting old tires and plastics.

OFFICIALS TURN AWAY FROM PESTICIDES IN BARK BEETLE FIGHT

Helsinki HUFVUDSTADSBLADET in Swedish 12 May 80 p 9

[Article by Inger Blomqvist]

[Text] Insect pests in our forests cause large economic losses each year even though we fight them with both chemical and biological methods. In Sweden where annual insect damage to forests is expected to rise to 1 billion kronor there is an increasing feeling that chemical weapons have failed, leading to work on other methods. One of these is an insect trap for spruce bark beetles. Last year 24 billion kronor were invested in the experiment and 250,000 traps were set out. Similar pheromone traps have also been used in Finland on a trial basis.

The worst insect pests in the forests are the weevil, the spruce bark borer and the pith borer. The weevils damage plantings, the spruce bark borer lives on and attacks spruce trees and the pith borer lives on pines. All these insects are combatted with various methods but Swedish forests have been particularly exposed to the attack of the spruce bark borer.

Better Off

"In this country we are much better off than they are in Sweden where there have been large-scale attacks by spruce bark beetles," said Jan Heino, chief forester at the forestry division of the Central Forestry Agency. "In 1969 Sweden experienced a severe storm which blew down many trees and this gave the spruce bark beetles a foothold and led to their explosive increase.

"The initial situation in Sweden was also different, since there are many company-owned forests there with larger clearings containing high concentrations of waste wood. The insects lay their eggs in waste wood or in other wood that is left lying in the forest for long periods of time.

Everything Cleaned Up

"Here we combat the insects by trying to clean up the wood as carefully as we can, including the tops. In addition one must take care that no wood is left piled in the forest when the insects swarm. For spruce stands this means before the end of July. As a rule this involves removing spruce timber before swarming occurs and pulpwood by the time the eggs hatch out, in other words before August. The same is true of trees downed in storms.

No Chemicals

"No extensive use of chemicals is resorted to here to combat spruce bark beetles. In some cases infested logs have been sprayed with chemicals but then they cannot be transported by river. Lindane has been used in Sweden in the past but according to reports the results have been poor."

Pheromone Traps

Last year 250,000 pheromone traps were tried out in Sweden to reduce the number of spruce bark beetles. There are different types of trap. The principle is that the insects are attracted to the trap by the pheromone scent, crawl into a pipe or fall into a bottle or collection tank through a plastic or glass panel. The traps caught lots of insects and it could be shown that there had been a reduction of spruce bark borers, especially in Varmland where they appear in large numbers.

Chief forester Heino said that pheromone traps have also been used on an experimental basis in certain areas in Osterbotten where a past storm had downed many trees and caused the insects to increase much faster than they normally do. But the Swedes are not entirely satisfied with the traps.

Weevils

Weevils attack small pines and spruces and are found mainly in newly-cleared areas to which they are attracted by the scent of fresh logs. Heino said there is no biological method today that can combat weevils. Instead a chemical poison known as Lindane is used.

This is done by dipping the plant into the chemical down to the root line. This is usually done in nurseries but sometimes it is also done in the forest in connection with planting out trees.

When the weevil later eats the bark it ingests the poison and dies. Lindane is not as effective as DDT which was used in the past but Jan Heino said it would be very unfortunate if Lindane is banned too. He felt some of the problem in Sweden was due to the fact that Lindane is now prohibited there.

"As long as there are no biological methods for wiping out insects poison must be used even though in principle one should try to use as few chemicals as possible.

"Pyrethroids are used in Sweden but those working with them can have skin and breathing problems and therefore they would prefer not to use this method. In addition, pyrethroids kill not only weevils but also bees and other small creatures that are the natural enemies of the weevil."

Forestry needs better methods to deal with harmful insects and at the Swedish Forestry College they are working on a biological method based on producing white roundworms which eat the larvae of the weevils. But it will be several years before this method can be used.

Virus

Research is being done in this area in Finland too and chief forester Heino told us of a virus that is applied to plants and trees which are being attacked by the pine sawfly. The virus kills the larvae--an example of a biological method that works.

Soil Preparation

One preventive measure that is being relied on increasingly is soil preparation. A forest harrow is used to prepare the soil where new seedlings are to be set out and care is taken that all surface vegetation is removed around the seedling. When soil minerals are exposed weevils stay away from tree seedlings.

Root Rot

Root rot is another plague in our forests, chief forester Heino noted. One of the ways of combatting it is to use a fungus that is antagonistic to the root rot fungus. After the trees are felled the stumps are sprinkled with this antagonistic fungus (*Phlebia gigantea*) which prevents the root rot fungus from getting a foothold in the stumps. Another preventive measure is to maintain a mixed forest.

With regard to insect attacks Heino said the most important thing is not to leave cut wood lying in the forests or close to forests for long periods of time. Stricter regulations on this are on the way.

It is estimated that forest damage in our country will increase to several hundred million marks annually. The important thing according to Heino is to keep an eye on our forests so that the damage does not become even greater.

Biological Methods in Greenhouses

Biological methods to combat insect pests are becoming increasingly common in greenhouses too. Predatory mites are introduced to the greenhouse to deal with vegetable mites. Parasite insects that prey on white fly larvae are used against that pest. There is also a biological method to use against the leaf louse, namely the leaf louse gnat whose larvae kill and consume all types of leaf louse. In the area of greenhouse cultivation they have come a long way in the use of biological preventive methods.

6578

CSO: 5000

END

END OF

FICHE

DATE FILMED

14 July 1980

D.A.